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COLLECTING NOTES ON THE FAMILY ASILIDAE (DIPTERA).

BY F. S. BLANTON, Bureau of Entomology and Plant Quarantine
U. S. Department of Agriculture.

The purpose of this paper is to record some of the observations made by the writer while collecting species belonging to this interesting family of Diptera. Although the family is represented in the writer's collection by considerably over 200 species, a number of these have been added through exchanges. This paper records some 63 species of Asilidae collected by the writer, and includes collecting notes for most of the species. Although not designed or likely to be of any great help to the specialist in this family, the paper may be of some help to the amateur.

The family Asilidae has always been of great interest to the writer, and even when he was a small boy the "antics" of some species completely captivated his attention. These antics included their turning the head from side to side while looking for prey. One very small species, *Holopogon guttula*, always takes the writer back to his experiences in the infantry. It seems to be able to do "right dress," "left dress," "about face," "forward march," and "backward march" in "double-quick" time. There are other species that go through some of these same capers.

It was most interesting to watch a rather large species of robber fly in southern Alabama while it was feeding on large bees and wasps. According to Dr. Bromley, this was *Diognites* sp. It would grasp a twig and hang by one or, at the most, two legs while using the remaining legs to maneuver the sting away from its mouth. The prey was kept at more or less legs' length, but eventually the fly would turn its head to the prey and insert the proboscis. Even though the prey would sometimes be as large as this fly, it would seldom struggle from the time the proboscis touched.

Many species resemble bees. The species of *Bombomima*, especially, resemble the bumblebees.

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Proctacanthus milbertii, a common species in southern Alabama, was called a "boo-hoo" by the small boys of that particular section. As a small boy the writer also called this fly a "boo-hoo," probably because it made a sound like "boo-hoo" while in flight. In 1932 the writer visited this section again and had the opportunity to check on this species and the common name which had been given to certain members of the family.

The name struck the writer as being rather appropriate when applied to *Proctacanthus milbertii*, as it *did* make a rather low-pitched "boo-hoo" sound as it flew in nervous spurts close to the ground. There seemed to be an irregular succession of wing beats and at each of these the sound "hoo" could be heard. The longer the flight, therefore, the more "hoo's" to be appended.

Several small boys were taken for a hike through woods and fields and all agreed that this species was a typical "boo-hoo." There were other "boo-hoo's," of course, and these were designated as little, big, black, or red "boo-hoo's." Although none of these boys knew anything about entomology, they recognized the characters that caused certain Asilidae to fall into the "boo-hoo" tribe. They also recognized the beneficial qualities of the family, since all had witnessed them catching and killing insect pests. Not a few of the group had been bitten by some species of the Asilidae, and the writer was informed that a large species which occurred in the spring could inflict a severe bite. This was probably *Dizonias tristis*, according to Bromley, who informs the writer that this species is the worst biter he knows.

A number of Asilidae have been identified for the writer by the late J. M. Aldrich and by J. Wilcox, C. T. Greene, Charles Martin, Maurice James, and Stanley Bromley. While the writer also has identified a number of specimens, in order to have all identifications confirmed Dr. Bromley, at the writer's request, has checked the entire collection and the appended list. At Dr. Bromley's suggestion these notes have been prepared for publication. The writer gratefully acknowledges the assistance of all the above mentioned workers.

The number of specimens collected is placed in parenthesis after the notes on each species. The dash between the names of localities "Manchester-Rupert" means from Manchester to Rupert.

LIST OF SPECIES WITH NOTES.

- Andrenosoma fulvicauda* (Say). New York: L. I., Babylon, July; on oak tree trunk. (2.)
Asilus angustipennis Hine. New York: L. I., Centereach, Sept. (1.)

- Asilus auricomus* Hine. *New York*: L. I., Babylon, July–Aug. (2.)
- Asilus autumnalis* Banks. *New York*: L. I., Selden, Sept.; Fire Island, Sept. (2.)
- Asilus erythrocnemius* Hine. *New York*: L. I., Babylon, June; Centereach, Sept.; *Florida*: Ocala, Nov. (9.)
- Asilus flavofemoratus* Hine. *New York*: L. I., Babylon, June–July; Dix Hills, June; Farmingdale, June; Belledaire, June; Wildwood Park, June; *Virginia*: Petersburg, May. On twigs in open woods. (54.)
- Asilus gracilis* Wied. *Alabama*: Atmore, July (Alton Blanton). (1.)
- Asilus lecythus* Walk. *New York*: L. I., Farmingdale, June; Centereach, June–Sept.; Selden, Sept.; Babylon, June–July; *Florida*: Bratt, April, 1933 (Alton Blanton). (19.)
- Asilus maneei* Hine. *New York*: L. I., Babylon, July–Sept.; Dix Hills, Aug.; Half Way Hollow Hills, Aug. Always taken on trunks of trees, sometimes on pine but usually on oak. In Babylon they seem to prefer oak, with black or very dark bark. (116.)
- Asilus novae-scotiae* Macq. *New York*: L. I., Babylon, July–Sept. (3.)
- Asilus notatus* Wied. *New York*: L. I., Babylon, June; Farmingdale, June; Belledaire, June; Islip, June; Wild Wood, St. Park, June; Tuxedo, July; *New Hampshire*: Bretton Woods, July; *New Jersey*: June; *Connecticut*: July; *Maine*: July; *Massachusetts*: July. (23.)
- Asilus orphne* Walk. L. I., Brentwood, May; Dix Hills, June; Belledaire, June; Islip, July; *New Hampshire*: Mt. Washington (Alpine Garden), July, 1935. (6.)
- Asilus paropus* Walk. *New York*: L. I., Babylon, June–Sept.; *Vermont*: Manchester–Rupert, July, *New Hampshire*: Bretton Woods, July; Half Way House to Gorham, July; *Maine*: July. (13.)
- Asilus sadyates* Walk. *New York*: L. I., Babylon, Sept. (2.)
- Asilus sericeus* Say. *New York*: Babylon, June–July; *New Hampshire*: Notchland, July. I have found this species very abundant sitting on the ground among bracken ferns at the edge of fields near the Belmont trail in Babylon. (47.)
- Asilus snowi* Hine. *New York*: Babylon, L. I., Aug.; *Vermont*: Bolton, July; Manchester–Rupert, July; *Maine*: July; *Ohio*: July; *Florida*: Bratt, April. (8.)
- Atomosia puella* (Wied.). *New York*: L. I., Dix Hills, August. Taken on the trunks of oak trees. (3.)

- Bombomima affinis* (Macq.). *Alabama*: Atmore, Nov. (Alton Blanton). (1.)
- Bombomima champlanii* (Walton). *New York*: L. I., Babylon, July; Huntington, Aug. (3.)
- Bombomima cinerea* (Back). *New York*: L. I., Babylon, May, on tree trunk. (2.)
- Bombomima flavicollis* (Say). *New York*: L. I., Babylon, June-July; Bear Mt., June. Found in or at edge of woods in sunny places, usually sitting on foliage of various plants. (19.)
- Bombomima grossa* (F.). *New York*: L. I., Babylon, July. Found in or at edge of deep woods in sunny places, one specimen taken on Belmont trail on maple tree foliage 8 or 9 feet high. (2.)
- Bombomima thoracica* (F.). *New York*: L. I., Babylon, June, 1936; Islip, July. In tall grass at edge of woods. (7.)
- Bombomima virginica* (Banks). *New York*: L. I., Babylon, June. (1.)
- Cerotainia albipilosa* Curran. *New York*: L. I., Babylon, July 21. (1.)
- Cyrtopogon fallo* (Walk.). *New York*: L. I., Babylon, May-June-July; Dix Hills, June; Heckscher St. Park, May. Found in sunny places in deep woods. (14.)
- Cyrtopogon lutatius* (Walk.). *New York*: L. I., Babylon, May-June-July. These specimens have been taken in open sunshine on tree trunks and on stumps. Almost all of these, however, were taken on old junked cars near the Belmont trail and stream. (195.)
- Cyrtopogon marginalis* Loew. *New York*: L. I., Babylon, April (1 specimen), May. Most specimens were taken in a spot about 1 acre in size on the trunks of trees (white oak) from ground level to 3 feet above ground. A few were taken on ground near trunk of tree. (64.)
- Dioctria baumhaueri* Meig. *New York*: L. I., Babylon, May-July; Dix Hills, June. This species is found to be most abundant in an old field grown up with wild cherry bushes, near the U. S. Entomological Laboratory. Also common in fence rows on foliage. (341.)
- Dioctria brevis* Banks. *New York*: L. I., Babylon, July; Wildwood St. Park, June; Dix Hills, June. *Vermont*: Smugglers Notch, July. This species was taken in sunny places in open woods. (6.)
- Diogmites discolor* Loew. *New York*: Yonkers, Aug. (4.)
- Diogmites misellus* Loew. *New York*: L. I., Babylon, July-Aug.-Sept.; Dix Hills, July-Aug.-Sept.; Centereach, Sept.; Islip,

- July. *Florida*: Bratt, June; *Alabama*: Atmore, June. This species has been found especially common in fence rows sitting on ground or green foliage near ground. In Babylon it has been frequently taken on cranberry plants near woods. (106.)
- Diognites salutans* Bromley. *Florida*: Bratt, June–July–Sept. (Alton Blanton). (15.)
- Diognites umbrinus* Loew. L. I., Fire Island Beach, Aug.–Sept.; Orient Point, Sept.; *Ohio*: July. These specimens were sitting on the ground in salt marsh grass near the beach. The vegetation was about waist high where these were taken. (13.)
- Erax aestuans* (L.). *New York*: L. I., Babylon, June–Aug.; Islip, July; *New Jersey*: Trenton, June. Some of these specimens were taken in freshly plowed fields on hot, dry soil. (34.)
- Erax barbatus* (F.). *New York*: L. I., Babylon, July; Islip, July; Fire Island Beach, July; *New Jersey*: June; *Alabama*: Atmore, July; *Florida*: Bratt, May, July. All specimens were taken on the ground. (47.)
- Erax femoratus* Macq. *New York*: L. I., Babylon, July; *Florida*: Bratt, June–Aug. (4.)
- Erax interruptus* Macq. *Florida*: Bratt, May–Sept.; *Alabama*: Bayminette, Aug.; Atmore, July–Sept. (Alton Blanton), on ground. (85.)
- Erax rufibarbis* Macq. *New York*: L. I., Babylon, Aug.–Sept.; *North Carolina*: Oct.; *Florida*: Bratt, Oct.; *Alabama*: Atmore, Nov. A number of specimens were taken on fence posts on a cool September morning. In North Carolina most specimens were taken in a field where hay had recently been cut. (47.)
- Holcocephala abdominalis* (Say). *North Carolina*: Oct.; *Florida*: Ocala, Nov. The specimens taken at Willard, N. C., were sitting on dead stems of “dog fennel,” *Eupatorium compositifolium*, at edge of field and near woods. (8.)
- Holopogon guttula* (Wied.). *New York*: L. I., Islip, July; Babylon, June–July; Brentwood, July; Farmingdale, June–July; *North Carolina*: Carolina Beach, May. Found on ends of twigs, especially abundant near water. Several specimens were confined to a test tube and numerous eggs were laid. (134.)
- Laphria canis* Will. *New York*: L. I., Babylon, June–July; Dix Hills, June; Wildwood St. Park, June; Bear Mt., June. These were taken in thick woods in sunny places, sitting on foliage. (5.)
- Laphria ithypyga* McAtee. *New York*: L. I., Babylon, July. These specimens were taken on oak tree trunks. (3.)

- Laphystia litoralis* Curran. *North Carolina*: Carolina Beach, Oct. Thousands of specimens were sitting on white sand near the ocean but were so active that only two were caught in 3 hours. Later, in the cooler part of the afternoon, about 30 specimens were taken. (22.)
- Mallophora bomboides* (Wied.). *Florida*: Jacksonville Beach, Oct. In tall grass. (1.)
- Nicocles politus* (Say). *New York*: L. I., Centereach, Sept.; Selden, Sept.; Medford Sta., Sept.; Hither Hills State Park, Sept.; *North Carolina*: Chinquapin, Oct.; *Alabama*: Atmore, Nov. On Long Island this species is most abundant on hill-sides supporting very little growth and usually covered with low bushes of huckleberries, *Vaccinium*, and myrtle (*Myrica asplenifolium*). The flies sit on the leaves of this plant and on twigs among the plants. The male has fine silver hairs on the end of the abdomen and has been observed hovering in front of the female, waving the abdomen in the sunlight. (104.)
- Ommatius tibialis* Say. *New York*: L. I., Babylon, June-July; Islip, June and July; Laurel Beach, Aug. Found on dead twigs. (94.)
- Proctacanthus brevipennis* (Wied.). *New York*: Half Way Hollow Hills, June; Babylon, June-July; *Carolina*: Willard, May. (15.)
- Proctacanthus milbertii* Macq. *Alabama*: Atmore, Oct.-Nov.; *Florida*: Bratt, Sept. Common in open fields and on dirt roadways, fence rows, open sunlight, etc. (17.)
- Proctacanthus philadelphicus* Macq. *New York*: L. I., Babylon, July-Aug.-Sept. These specimens are quite numerous in old fields, fence rows, etc. The species has a wide distribution and is found in many plant associations but usually in the open sunlight. (41.)
- Proctacanthus rufus* Will. *New York*: L. I. West Hampton Beach, July. On ground. (1.)
- Promachus bastardii* (Macq.). *New York*: L. I., Babylon, July. Near woods. (11.)
- Promachus fitchii* O. S. *New York*: L. I., Babylon, July. (3.)
- Promachus rufipes* (F.). *North Carolina*: Willard, Oct. These specimens were taken at fence rows dividing dense woods and open fields. (4.)
- Psilonyx (Leptogaster) badius* Loew. *New York*: L. I., Babylon, July. (2.)
- Psilonyx (Leptogaster) favillaceus* Loew. *Vermont*: Manchester-